

Form PTO-1449

APR 20 2007

Docket No.: D-3214

Application No.: 10/550,843

**INFORMATION DISCLOSURE CITATION  
IN AN APPLICATION**  
(Use several sheets if necessary)

Applicant: Calvez et al.

Filing Date: March 24, 2004

Group Art Unit: Unknown

**U. S. PATENT DOCUMENTS**

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	5,052,016	09/1991	Mahbobzadeh et al.			
	5,461,637	10/1995	Mooradian et al.			
	5,513,203	04/1996	Damen			
	5,627,853	05/1997	Mooradian et al.			
	6,628,695	09/2003	Aldaz et al.			
	2002/0075929	06/2002	Cunningham			

**FOREIGN PATENT DOCUMENTS**

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
	WO 95/25366	09/1995	International				
	WO 99/12235	09/1995	International				
	WO 00/10234	02/2000	International				
	WO 00/12235	03/2000	International				
	WO 00/25398	04/2000	International				
	WO 00/25399	04/2000	International				
	WO 01/59895	08/2001	International				
	WO 02/47223	06/2002	International				

**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

AA	W.J. Alford et al., "High Power and good beam quality at 980 nm from a vertical external-cavity surface-emitting laser", <i>Journal of the Optical Society of America B (Optical Physics) Opt. Soc. America USA</i> , Vol. 19, No. 4, pages 663-666, 2002.
AB	C. Asplund et al., "1260 nm InGaAs vertical-cavity lasers", <i>Electronics Letters</i> , Vol. 38, No. 13, 2002, p.635-636
AC	D.I. Babic et al., "Double-fused 1.52- $\mu$ m vertical-cavity lasers", <i>Appl. Phys. Lett.</i> (9), 27, 1995, P.1030-1032.
AD	W.W. Bewley et al., "Thermal Characterization of Diamond-Pressure-Bond Heat Sinking for Optically Pumped Mid-Infrared Lasers", <i>IEEE Journal of Quantum Electronics</i> , Vol. 35, No. 11, 1999, p. 1597-1601.
AE	E. Staffan Björtn, "High Gain, High Efficiency Vertical-Cavity Semiconductor Optical Amplifiers", <i>IPRM</i> , 2002, p. 307-310.
AF	A. Black, "Wafer Fusion: Materials Issues and Device Results", <i>IEEE Journal Sel. Topics in Quantum Electronics</i> , Vol. 3, No. 3, 1997, p. 943-951.

EXAMINER

/Tuan Nguyen/

DATE CONSIDERED

10/31/2009

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /T.N./

Form PTO-1449



Docket No.: D-3214

Application No.: 10/550,843

**INFORMATION DISCLOSURE CITATION  
IN AN APPLICATION**  
(Use several sheets if necessary)

Applicant: Calvez et al.

Filing Date: March 24, 2004

Group Art Unit: Unknown

**U. S. PATENT DOCUMENTS**

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

**FOREIGN PATENT DOCUMENTS**

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION
					YES NO

**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

AG	M.J. Bohn, "Resonant optical pumping of vertical-cavity surface emitting lasers", <i>Optics Communications</i> , 117(1995) p. 111-115.
AH	H. Bourdouce, "Design of Ultra-Fast Dual-Wavelength Resonant-Cavity-Enhanced Schottky Photodetectors", <i>IEEE Journal of Quantum Electronics</i> , Vol. 37, No. 1, 2001, p. 63-68.
AI	S. Calvez, "Optimization of an Optically Pumped 1.3- $\mu$ m GaInNAs Vertical-Cavity Surface-Emitting Laser", <i>IEEE Photonics Tech. Lett.</i> , Vol. 14, No. 2, 2002, p. 131-133.
AJ	S.W. Corzine, "Design of Fabry-Perot Surface-Emitting Lasers with a Periodic Gain Structure", <i>IEEE Journal of Quantum Electronics</i> , Vol. 25, No. 6, 1989, p. 1513-1524.
AK	R.P. Espindola, "High power, low RIN, spectrally-broadened 14xx DFB pump for application in co-pumped Raman amplification", <i>ECOC</i> , 2001.
AL	C.L. Felix et al., "High-efficiency midinfrared "W" laser with optical pumping injection cavity", <i>Appl Phys Lett</i> , Vol. 75, No. 19, 1999, p. 2876-2878.
AM	M.F. Ferreira et al., "Impact of Stimulated Brillouin Scattering on Fibre Raman Amplifiers", <i>Electronics Letters</i> , Vol. 27, No. 17, 1991, p. 1576-1577.
AN	C.R.S. Fludger et al., "Pump to signal RIN transfer in Raman fibre amplifiers", <i>Electronics Letters</i> , Vol. 37, No. 1, 2001, p. 15-17.
AO	A. Garnache et al., "Sub-500-fs soliton-like pulse in a passively mode-locked broadband surface-emitting laser with 100 mW average power," <i>Applied Physics Letters</i> , Vol. 80, No. 21, 2002, p. 3892-3894.
AP	M.D. Gerhold, "Novel Design of a Hybrid-Cavity Surface-Emitting Laser", <i>IEEE Journal of Quantum Electronics</i> , Vol. 34, No. 3, 1998, p. 506-510.
AQ	M.A. Hadley et al., "High single-transverse-mode output from external-cavity surface-emitting laser diodes", <i>Appl. Phys. Lett.</i> , 63, 1607-1609, 1993.
AR	S. Hamidi et al., "Effect of Pump Laser Mode Structure on the Gain of Forward Pumped Raman Fibre Amplifier in the Presence of Stimulated Brillouin Scattering", <i>Electronic Letters</i> , Vol. 28, No. 18, 1992, p. 1768-1770.
AS	R. Häring et al., "Picosecond surface-emitting semiconductor laser with >200 mW average power", <i>Electronics Letters</i> , Vol. 37, No. 12, 2001, p. 766-767.
AT	R. Häring et al., "High-Power Passively Mode-Locked Semiconductor Lasers", <i>IEEE Journal of Quantum Electronics</i> , Vol. 38, No. 9, 2002, p. 1268.

EXAMINER

/Tuan Nguyen/

DATE CONSIDERED

10/31/2009

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /T.N./

Form PTO-1449

APR 20 2007

Docket No.: D-3214

Application No.: 10/550,843

**INFORMATION DISCLOSURE CITATION  
IN AN APPLICATION**  
(Use several sheets if necessary)

Applicant: Calvez et al.

Filing Date: March 24, 2004

Group Art Unit: Unknown

**U. S. PATENT DOCUMENTS**

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

**FOREIGN PATENT DOCUMENTS**

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION
					YES NO

**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

AU	J. Harris, "Tunable Long-Wavelength Vertical-Cavity Lasers: The Engine of Next Generation Optical Networks?" <i>IEEE Journal Sel. Topics Quant. Electron.</i> , Vol. 6, No. 6, 2000, p. 1150.
AV	M.A. Holm et al., "Actively Stabilized Single-Frequency Vertical-External-Cavity AlGaAs Laser," <i>IEEE Photonics Tech. Lett.</i> 11, 12, 1999, p. 1551.
AW	M.A. Holm et al., "High-power diode-pumped AlGaAs surface-emitting laser", <i>Appl. Optics</i> , 38, 27, 1999, pp. 5781-5784.
AX	S. Hoogland et al., "Passively mode-locked diode-pumped Surface-emitting semiconductor laser", <i>IEEE Photonics Tech. Letters</i> , Vol. 12, No. 9, 2000, p. 1135-1137.
AY	H.Q. Hou et al., "MOVPE Growth of High Performance 1.06 $\mu$ m Selectively Oxidized Vertical-Cavity Surface Emitting Laser", <i>OSA Tops</i> , Vol. 15, 1997, p. 106-111.
AZ	W. Jiang et al., "Analysis of Laser Pulse Chirping in Mode-Locked Vertical-Cavity Surface-Emitting Lasers", <i>IEEE Journal of Quantum Electronics</i> , Vol. 29, No. 5, 1993, p. 1309.
BA	X. Jin et al., "Microwave Modulation of a Quantum-Well Laser with and without External Optical Injection", <i>IEEE Photon Tech. Letters</i> , Vol. 12, No. 7, 2001, p. 648-650.
BB	U. Keller, "Semiconductor Saturable Absorber Mirrors (SESAM's) for Femtosecond to Nanosecond Pulse Generation in Solid-State Lasers", <i>IEEE Journal of Sel. Topics in Quant. Electron.</i> , Vol. 2, No. 3, 1996, p. 435-453.
BC	M. Kuznetsov et al., "Design and Characteristics of High-Power (>0.5-W CW) Diode-Pumped Vertical-External-Cavity Surface-Emitting Semiconductor Lasers with Circular TEM <sub>00</sub> Beams", <i>IEEE J of Sel. Topics Quant. Electron.</i> , 5, 3, 1999, p. 561.
BD	M. Kuznetsov et al., "High-power (>0.5 W CW) Diode-pumped Vertical-External-Cavity Surface-Emitting Lasers with Circular TEM <sub>00</sub> Beams", <i>IEEE Photonics Tech. Lett.</i> , 9, 1063-1065, 1997.
BE	C.P. Lee et al., "Dual-wavelength Bragg reflectors using GaAs/AlAs multilayers", <i>Electronics Letters</i> , Vol. 29, No. 22, 1993, p. 1980-1981.
BF	Z.L. Liao et al., "Nanometer air gaps in semiconductor wafer bonding", <i>Applied Physics Letters</i> , Vol. 78, No. 23, 2001, p. 3726-3728.
BG	Z.L. Liao et al., "Semiconductor wafer bonding via liquid capillarity", <i>Applied Physics Letters</i> , Vol. 77, No. 5, 2001, p. 651-653.
BH	Y.H. Lo et al., "Semiconductor lasers on Si substrates using the technology of bonding by atomic rearrangement", <i>Appl. Phys. Lett.</i> , Vol. 62(10), 1993, p. 1038-1040.

EXAMINER

/Tuan Nguyen/

DATE CONSIDERED

10/31/2009

EXAMINER: Initial if citation considered, whether or not citation is in accordance with MPEP § 609; Draw line through citation if not in accordance and not considered. Include copy of this form with next communication to the applicant.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /T.N./

Form PTO-1449

APR 20 2007

Docket No.: D-3214

Application No.: 10/550,843

**INFORMATION DISCLOSURE CITATION**  
**IN AN APPLICATION**  
(Use several sheets if necessary)

Applicant: Calvez et al.

**Filing Date: March 24, 2004**

**Group Art Unit: Unknown**

## U. S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE	
				CLASS	SUBCLASS	TRANSLATION	
						YES	NO

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

BI	D.J. Lovering et al., "Optimisation of dual-wavelength Bragg mirrors." <i>Electronics Letters</i> , Vol. 32, No. 19, <b>1996</b> , p. 1782-1784.
BI	M.D. Mermelstein et al., "RIN transfer analysis in pump depletion regime for Raman fibre amplifiers", <i>Electronics Letters</i> , Vol. 38, No. 9, <b>2002</b> , p. 403-405.
BK	P. Michler et al., "Emission Dynamics of $\text{In}_{0.9}\text{Ga}_{0.8}\text{As}/\text{GaAs}$ $\lambda$ and $2\lambda$ Microcavity Lasers", <i>Applied Physics Letters</i> , American Institute of Physics, New York, US, Vol. 68, No. 2, <b>1996</b> , pages 156-158.
BL	S.S. Murtaza et al., "High-Efficiency, Dual-Wavelength, Wafer-Fused Resonant-Cavity Photodetector Operating at Long Wavelengths", <i>IEEE Photon. Tech. Lett.</i> , Vol. 7, No. 6, <b>1995</b> , p. 679-681.
BM	Y. Onishi et al., "Design and Fabrication Process of Optically Pumped GainAsP/InP Stripe Laser with Resonant Pumping for High-Power Operation", <i>Japanese Journal of App. Phys.</i> , Vol. 40, <b>2001</b> , p. 4920-4921.
BN	M.Y.A. Raja et al., "Resonant Periodic Gain Surface-emitting Semiconductor Lasers", <i>IEEE J. Quantum Electron.</i> , Vol. 25, No. 6, <b>1989</b> , pp. 1500-1512.
BO	E. Schiehlen et al., "Diode-Pumped Semiconductor Disk Laser With Intracavity Frequency Doubling Using Lithium Triborate (LBO)", <i>IEEE Photonics Tech. Lett.</i> 14, 6, <b>2002</b> , p. 777.
BP	M. Schulze et al, "Efficiency Experts", <i>Photonics Spectra</i> , May <b>2001</b> .
BQ	M. Schulze, "Technologischer Durchbruch mit blauen Festkörperlaser", <i>Photonik</i> 3, <b>2001</b> .
BR	C. Stewen et al., "A 1-k W CW Thin Disc Laser", <i>IEEE J. of Sel. Topics Quant. Electron.</i> , Vol. 6, No. 4, <b>2000</b> , p. 650-657.
BS	A. Valentini et al., <i>Electronics Letters</i> , Vol. 35, No. 11, <b>1999</b> , p. 896-897.
BT	E. Yablonovitch et al., "Van der Waals bonding of GaAs epitaxial liftoff films onto arbitrary substrates", <i>Appl. Phys. Lett.</i> , Vol. 56, No. 24, <b>1990</b> , p. 2419-2421.
BU	F. Yang et al., "Edge-emitting quantum well laser with Bragg reflectors", <i>Appl. Phys. Lett.</i> , Vol. 66, No. 22, <b>1995</b> , p. 2949-2951.
BV	Coherent Laser Division. Sapphire Optically Pumped Semiconductor Lasers, Copyright 2002, Coherent, Inc.
BW	Coherent® Product Information. Sapphire 488 & 460 LP. Copyright 2006. Coherent, Inc.

EXAMINER

/Tuan Nguyen/

DATE CONSIDERED

10/31/2009

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 5 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.